



# Integrated Vehicle-Based Safety System (IVBSS)

## What It Is

An integrated crash avoidance countermeasure system could prevent 48 percent of rear-end, road-departure and lane-change crashes -- more than 1.8 million target crashes. The IVBSS Initiative is expected to reduce driver workload and reaction time to prevent conflicting warnings, reduce false alarms and reduce unintended consequences, such as causing a road-departure crash while trying to prevent a rear-end crash. Integration of these individual crash warning systems is expected to improve overall system performance, increase safety, reduce system cost, improve consumer and fleet operator acceptance and enhance product marketability.

The National Highway Traffic Safety Administration (NHTSA) and the Federal Motor Carrier Safety Administration (FMCSA) are conducting the IVBSS initiative as part of USDOT's ITS program. IVBSS will develop performance specifications and measure the real world benefits of integrated technologies for forward-looking collision warning, road/lane-departure warning and lane-change collision warning combined in an integrated system. Program partners include the University of Michigan Transportation Research Institute, Visteon Corporation, Eaton Corporation, Honda America, Assistware, Battelle Science and Technology International and the Michigan Department of Transportation. USDOT will work closely with industry partners to accelerate the commercialization of the advanced safety technologies developed during the IVBSS program. The project is expected to be complete by the end of calendar 2009.

## Current Status

Objective test procedures and the driver-vehicle interface design are nearly complete. Integration of IVBSS technologies into the prototype light-duty vehicles is well underway.

## The Year Ahead

The IVBSS Initiative is being conducted in two phases: Phase 1 of the project is well underway developing the integrated collision avoidance system. Phase 2 will conduct a field operational test (FOT) of advanced technologies in both light vehicles and commercial heavy trucks.

Phase 1 activities include the system design, the development of a driver-vehicle interface and the design and development of one or more engineering test vehicles. Prototype vehicles will be developed and tested for both light duty and heavy truck applications. During Phase 2, a vehicle fleet comprised of both light vehicles and commercial heavy trucks that incorporate the integrated warning system and data acquisition system will be fabricated and tested. Phase 2 will ultimately produce a limited field operational test that demonstrates the frequency of driver encounters with conflicts and near crashes, the severity of near crashes, unintended consequences and driver acceptance of the system. For the heavy truck portion, fleet operator acceptance will also be evaluated. Throughout the entire initiative, an independent evaluator is being engaged to objectively evaluate costs, benefits and safety improvements.

For more information go to: <http://www.its.dot.gov/ivbss/index.htm>